

24 MAY 2016



General Manager
Pittwater Council
PO Box 882
Mona Vale NSW 1660

Dear Sir/ Madam

Development Consent No. N0377/07 (N0377/07/S96/1)
Construction Certificate No. 2008/2658A

For Council's information, please find enclosed the following:

1. Occupation Certificate No. 2008/2658A.
2. A cheque for \$36.00 being Council's administration fee to accept the above. **Please send receipt to Insight Building Certifiers, PO Box 326, Mona Vale 1660.**

Yours faithfully,

A handwritten signature in blue ink, appearing to read "Tom Bowden".

Tom Bowden
Insight Building Certifiers Pty Ltd

\$36

PRVC

Rec: 395587

Determination of a Final Occupation Certificate Application

Made under Sections 109C(1)(c) and 109H of the Environmental Planning and Assessment Act 1979

Final Occupation Certificate No: 2008/2658A

Land to which this certificate applies:

Address: 11 Plateau Road, Avalon

Lot No: 150 DP No: 16902

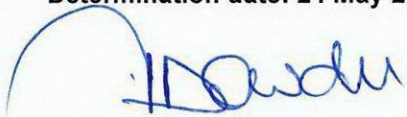
I approve the issuing of this Final Occupation Certificate and certify that:

- I have been appointed as the Principal Certifying Authority under Section 109E of the Environmental Planning & Assessment Act 1979.
- Current Development Consent No. N0377/07 (N0377/07/S96/1) is in force for this development.
- Construction Certificate No. 2008/2658A has been issued with respect to the plans and specifications for alterations and additions to an existing dwelling.
- The building is completed in accordance with its classification under the Building Code of Australia.
- A BASIX completion receipt has been issued for this development
- Refer to the attached Schedule of all critical stage inspections and Compliance Certificates relied upon to issue this Occupation Certificate.

As this property is located on bushfire prone land all bushfire protection measures as required by conditions of the above Development Consent are to be maintained for the life of the building.

Note: The issuing of this Occupation Certificate by *Insight Building Certifiers Pty Ltd* must not be construed as admitting liability for any defective works which may or may not occur, as a result of *Insight Building Certifiers Pty Ltd* not carrying out the required critical stage inspections as listed in the attached Schedule of Critical Stage Inspections.

Determination date: 24 May 2016



Tom Bowden
Accredited Certifier – Accreditation No. BPB0042

Schedule of critical stage inspections carried out or missed by the Principal Certifying Authority (Clause 151, 162A, 162B & 162C of the Environmental Planning & Assessment Regulations 1994)

Critical Stage Inspections	Inspected or Missed	Date Inspected
Prior to works commencing	Inspected	28/03/2008
Excavation for footings	Inspected	08/05/2008
Prior to pouring of any in-situ reinforced concrete	Inspected	01/07/2008
Prior to the covering of any framework	Inspected	14/08/2008 & 26/11/2008
Prior to covering waterproofing in any wet area	Inspected	20/02/2009
Prior to covering any stormwater drainage connections	Missed	
Other required inspections	n/a	n/a
Final Inspection	Inspected	31/07/2009 & 20/04/2016

Schedule of Compliance Certificates or other documentary evidence relied upon to issue the Final Occupation Certificate

Smoke Alarm Installation Compliance Certificate	Issued by Peninsula Electrical Services dated 29 July 2009.
Structural Engineer's Compliance Certificates (various)	Issued by Tihanyi Consulting Engineers Pty Ltd dated 20 April 2009 and 6 August 2009 and Jack Hodgson Consultants Pty Ltd dated 25 May 2008.
Bushfire Construction Compliance Certificate	Issued by Wattlegrove Services Pty Ltd dated 12 July 2015.
Geotechnical "Form 3" Certificate	Issued by Jack Hodgson Consultants Pty Ltd dated 11 August 2009.

BASIX Completion Receipt

Receipt no.: CR-1464048362017-A12193

This receipt is confirmation that the certifying authority identified below has satisfied the requirements of clause 154C of the Environmental Planning and Assessment Regulation 2000 for the development described in the 'BASIX Certificate details' section below.

Director-General
Date of issue: Tuesday, 24/05/2016



Principal certifying authority

Name: Tom
Accreditation scheme: BPB
Accreditation number: 0042

Final Inspection

Date of final inspection: Friday, 31/07/2009

BASIX Certificate details

BASIX Certificate no.	A12193
Project name	LEVY
Street address	11 PLATEAU Road
Suburb	AVALON
Postcode	2107
Local Government Area	Pittwater Council

BUILDING INSPECTION REPORT

Land to which this Building Inspection Report result sheet applies:

Council Area : Pittwater Date of Inspection 8.5.08
 Address : 11 Pleasure Road Bideford Avalon
 DA No. N0377/07 CC No. 2008/2658 CDC No.
 Requested by: Chris Ph No. 0412 491581

Critical Stage Inspections

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> PCA Signage | <input type="checkbox"/> Steel Placement | <input type="checkbox"/> Stormwater |
| <input type="checkbox"/> Sediment Controls | <input type="checkbox"/> Floor Framing / Slab | <input type="checkbox"/> Pool Fence |
| <input type="checkbox"/> Tree Protection Measures | <input type="checkbox"/> Wall Framing | <input type="checkbox"/> Final Inspection |
| <input type="checkbox"/> Building Commencement | <input type="checkbox"/> Roof Framing | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Footings and Excavation | <input type="checkbox"/> Waterproofing | <input checked="" type="checkbox"/> Photographic record |

☒ An inspection of piers has been carried out and has been found to be in compliance with the plans and specifications as approved in that Construction Certificate/Complying Development Certificate.

☐ Complete the work detailed hereunder.

☐ Complete the work detailed hereunder and contact the Principal Certifying Authority to arrange a re-inspection. NB A re-inspection fee of \$ _____ will be charged, which is payable **PRIOR TO THE RE-INSPECTION BEING CARRIED OUT.**

Geotechnical Engineer certificate required for
the foundation material

Signed: A Bailey Accreditation No. BP60015 Date: 8.5.08
 Accredited Building Surveyor

BUILDING INSPECTION REPORT

Land to which this Building Inspection Report result sheet applies:

Council Area : Pittwater Date of Inspection 1.7.08

Address 11 Plateau Road Avalon

DA No. N0377/07 CC No. 2008/2658 CDC No.

Requested by: Chris Ph No. 0412 479 589

Critical Stage Inspections

- | | | |
|---|--|---|
| <input type="checkbox"/> PCA Signage | <input checked="" type="checkbox"/> Steel Placement | <input type="checkbox"/> Stormwater |
| <input type="checkbox"/> Sediment Controls | <input checked="" type="checkbox"/> Floor Framing / Slab | <input type="checkbox"/> Pool Fence |
| <input type="checkbox"/> Tree Protection Measures | <input type="checkbox"/> Wall Framing | <input type="checkbox"/> Final Inspection |
| <input type="checkbox"/> Building Commencement | <input type="checkbox"/> Roof Framing | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Footings and Excavation | <input type="checkbox"/> Waterproofing | <input checked="" type="checkbox"/> Photographic record |

☒ An inspection of Steel to 1st slab & rear deck has been carried out and has been found to be in compliance with the plans and specifications as approved in that Construction Certificate/Complying Development Certificate.

☐ Complete the work detailed hereunder.

☐ Complete the work detailed hereunder and contact the Principal Certifying Authority to arrange a re-inspection. NB A re-inspection fee of \$_____ will be charged, which is payable **PRIOR TO THE RE-INSPECTION BEING CARRIED OUT.**

Steel as per engineers detail
Flow framing satisfactory

Signed: A. Bailey Accreditation No. AB0015 Date: 1.7.08
Accredited Building Surveyor

BUILDING INSPECTION REPORT

Land to which this Building Inspection Report result sheet applies:

Council Area: Pittwater Date of Inspection: 14. 8. 08
 Address: 11 Plateau Road Avalon
 DA No: N0377/07 CC No: 2008/2658 CDC No:
 Requested by: Chris Ph No: 0412 479 589

Critical Stage Inspections

- | | | |
|---|---|---|
| <input type="checkbox"/> PCA Signage | <input checked="" type="checkbox"/> Steel Placement | <input type="checkbox"/> Stormwater |
| <input type="checkbox"/> Sediment Controls | <input type="checkbox"/> Floor Framing / Slab | <input type="checkbox"/> Pool Fence |
| <input type="checkbox"/> Tree Protection Measures | <input checked="" type="checkbox"/> Wall Framing | <input type="checkbox"/> Final Inspection |
| <input type="checkbox"/> Building Commencement | <input checked="" type="checkbox"/> Roof Framing | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Footings and Excavation | <input type="checkbox"/> Waterproofing | <input checked="" type="checkbox"/> Photographic record |

☒ An inspection of wall & roof has been carried out and has been found to be in compliance with the plans and specifications as approved in that Construction Certificate/Complying Development Certificate.

☐ Complete the work detailed hereunder.

☐ Complete the work detailed hereunder and contact the Principal Certifying Authority to arrange a re-inspection. NB A re-inspection fee of \$ _____ will be charged, which is payable **PRIOR TO THE RE-INSPECTION BEING CARRIED OUT.**

Note ceiling joint deleted requires to comply roof construction.

Signed: A. Baker Accreditation No: 4030215 Date: 14. 8. 08
 Accredited Building Surveyor

BUILDING INSPECTION REPORT

Land to which this Building Inspection Report result sheet applies:

Council Area: Pittwater Date of Inspection 26-11-08

Address 11 Plateau Road Avalon

DA No. N0377/07 CC No. 2008/2658 CDC No.

Requested by: Chris Elliot Ph No. 0412 479 589

Critical Stage Inspections

- | | | |
|---|---|---|
| <input type="checkbox"/> PCA Signage | <input checked="" type="checkbox"/> Steel Placement | <input type="checkbox"/> Stormwater |
| <input type="checkbox"/> Sediment Controls | <input type="checkbox"/> Floor Framing / Slab | <input type="checkbox"/> Pool Fence |
| <input type="checkbox"/> Tree Protection Measures | <input checked="" type="checkbox"/> Wall Framing | <input type="checkbox"/> Final Inspection |
| <input type="checkbox"/> Building Commencement | <input checked="" type="checkbox"/> Roof Framing | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Footings and Excavation | <input type="checkbox"/> Waterproofing | <input checked="" type="checkbox"/> Photographic record |

☒ An inspection of wall & roof framing has been carried out and has been found to be in compliance with the plans and specifications as approved in that Construction Certificate/Complying Development Certificate.

☒ Complete the work detailed hereunder.

☐ Complete the work detailed hereunder and contact the Principal Certifying Authority to arrange a re-inspection. NB A re-inspection fee of \$ _____ will be charged, which is payable **PRIOR TO THE RE-INSPECTION BEING CARRIED OUT.**

Framing satisfactory subject to internal wall & ceiling joint to laundry area.

Signed: A Bailey Accreditation No. BPIB0015 Date: 26.11.08
Accredited Building Surveyor

BUILDING INSPECTION REPORT

Lar to which this Building Inspection Report result sheet applies:

Council Area Pittwater Date of Inspection 20-2-09

Address 11 Plateau Road Avalon

DA No. N0377/07 CC No. 2008/1658 CDC No. _____

Requested by: Chas Elliot Ph No. 0412 479 589

Critical Stage Inspections

- | | | |
|---|---|---|
| <input type="checkbox"/> PCA Signage | <input type="checkbox"/> Steel Placement | <input type="checkbox"/> Stormwater |
| <input type="checkbox"/> Sediment Controls | <input type="checkbox"/> Floor Framing / Slab | <input type="checkbox"/> Pool Fence |
| <input type="checkbox"/> Tree Protection Measures | <input checked="" type="checkbox"/> Wall Framing | <input type="checkbox"/> Final Inspection |
| <input type="checkbox"/> Building Commencement | <input type="checkbox"/> Roof Framing | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Footings and Excavation | <input checked="" type="checkbox"/> Waterproofing | <input checked="" type="checkbox"/> Photographic record |

☒ An inspection of waterproofing & internal wall framing has been carried out and has been found to be in compliance with the plans and specifications as approved in that Construction Certificate/Complying Development Certificate.

☒ Complete the work detailed hereunder.

☐ Complete the work detailed hereunder and contact the Principal Certifying Authority to arrange a re-inspection. NB A re-inspection fee of \$ _____ will be charged, which is payable **PRIOR TO THE RE-INSPECTION BEING CARRIED OUT.**

Waterproofing to 1st floor wet area.

Internal wall framing to laundry.

Complete wet area wall tracing to laundry

Signed: A. Bailey Accreditation No. BP00015 Date: 20-2-09
Accredited Building Surveyor

PENINSULA ELECTRICAL SERVICES

ABN 19 911 869 409

Lic. No. 28624

17 Tasman Road, North Avalon, NSW 2107

• Tel: (02) 9918 7081 • Fax: (02) 9918 7081 • Mobile: 0411 034 059

TO WHOM IT MAY CONCERN

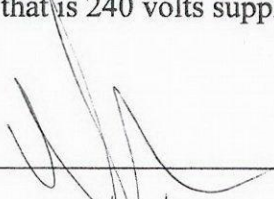
I, Will Rodgers Liscenced Electrical Contractor-

Liscence No 28624

Certify that I have installed Smoke Detectors in the premises of:

11 PLATEAU RD AVALON BEACH

in accordance with A.S.3786 and in accordance with E1.7 of the building code of Australia, that is 240 volts supply and battery backup.

Signed: 

Dated: 29/7/09

20 April 2009

Job No: CMSC-1286

Mr & Mrs Ian & Evelyn Levy
11 Plateau Road
AVALON NSW 2107

Dear Sir/Madam,

STRUCTURAL INSPECTION CERTIFICATE

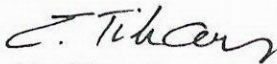
Re: 11 Plateau Rd. Avalon – Alterations and Additions

We, Tihanyi Consulting Engineers Pty Ltd, being Structural Engineers within the meaning of the Building Code of Australia, hereby certify that we have carried out structural inspections, when notified, in accordance with accepted engineering practice and principles, during the construction of the project as shown in the attached schedule and that, at the times of the inspections, the work inspected conformed, in our opinion, with the structural engineering drawings designed and detailed in accordance with the relevant sections of Australian Standards AS 1170, AS 3600, AS 4100, AS 1720, AS 3700, approved by the Certifying Authority, with the exceptions noted in the Site Memorandums.

Elements not listed in the attached schedule are not subject of this certificate.

Our involvement, the inspections, and this certificate shall not be taken as relieving the Building Contractor of any of his responsibilities.

Yours faithfully
Tihanyi Consulting Engineers Pty Ltd



Eva Tihanyi
BE MIEAust MACEAust
CPEng

Attach

STRUCTURAL INSPECTION SCHEDULE**FOR: 11 Plateau Rd. Avalon – Alterations and Additions**

Insp.Date:	Components Inspected:	Drawing No.s	Items Approved
08/05/08	Footing piers for deck extension at rear & 2 footing piers at front.	CMSC-1286/A	Footing piers for deck extension at rear & 2 footing piers at front, subject to corrections described in site memorandum.
26/05/08	Site meeting, re proposed changes by Client.	CMSC-1286/A	Nil. Advise provided on changes proposed by client.
27/06/08	Reinforcement for concrete slabs over garage & entry.	CMSC-1286/A	Reinforcement for concrete slabs over garage & entry, subject to corrections described in site memorandum.
15/08/08	Steel & timber framing for upstairs bedroom extension to be in accordance with structural framing plans.	CMSC-1286/A	Steel & timber framing for upstairs bedroom extension to be in accordance with structural framing plans, subject to corrections described in site memorandum.
21/08/08	Inspection of conditions for new door opening for cavity sliders to bedroom upstairs.	CMSC-1286/A	Instructions were given on lintel beam, posts, connections and bracing as described in site memorandum.
25/11/08	Steel beams & columns floor lower roof & steel lintels to replace arches (2 of).	CMSC-1286/A & instructions	Steel beams & columns floor lower roof & steel lintels to replace arches (2 of), subject to corrections described in site memorandum.
24/02/09	Bracing to wall system to lower floor.	CMSC-1286/A	Bracing to wall system to lower floor, subject to corrections described in site memorandum. (Except laundry area)
30/03/09	Final bracing inspection.	CMSC-1286/A	Bracing system to lower floor extension to be in accordance with structural with agreed changes.

06 August 2009

Job No: CMSC-1286

Mr & Mrs Ian & Evelyn Levy
11 Plateau Road
AVALON NSW 2107

Dear Sir/Madam,

ADDENDUM TO STRUCTURAL INSPECTION CERTIFICATE

Re: 11 Plateau Rd. Avalon – Alterations and Additions

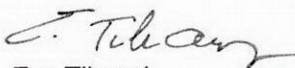
At the request of the Building Inspection Report by Insite Building Certificates dated 14/08/08 please find additional certification below.

This certificate is addendum to Structural Inspection Certificate Dated 20 April 2009.

We, Tihanyi Consulting Engineers Pty Ltd, also certify that we have carried out structural inspection of the roof framing above the new study and terrace, and at the time of the inspection, the work inspected conformed, in our opinion, with the structural engineering drawings and instructions, including instruction 3 on site memorandum dated 15/08/08.

Our involvement, the inspections, and this certificate shall not be taken as relieving the Building Contractor of any of his responsibilities.

Yours faithfully
Tihanyi Consulting Engineers Pty Ltd



Eva Tihanyi
BE MIEAust MACEAust
CPEng

Attach

SITE MEMORANDUM

TO: C.R.E.D. ELLIOTT
ATTENTION: CHRIS ELLIOTT
PROJECT: CHSC-1230 11. PLATEAU RD - AVALON

JOB N°: CHSC-1230
DATE: 15-8-08

Dear Sir,

We have inspected the structural elements listed below of the above. We have found it to be constructed in accordance with the structural drawings No CHSC-1230 Revisions A with the following exemptions which have to be corrected.

Inspected work: STEEL & TIMBER FRAMING FOR UPSTAIRS BEDROOM EXTENSION TO BE IN ACCORDANCE WITH STRUCTURAL FRAMING PLANS.

Corrections to be made:

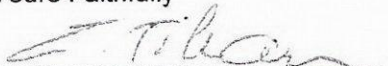
- 1.) PLEASE RE-TIGHTEN BOLTS IN STEEL PORTAL FRAME'S COLUMN TO BEAM CONNECTION. ✓
- 2.) PLEASE SUPPORT SIDE BEAMS OF DECK ROOF ON DOUBLE STUDS IN FRONT OF STEEL COLUMNS AS AGREED. ✓
- 3.) PLEASE PROVIDE SUPPORT FOR LOADBEARING RIDGE BEAM OVER HOUSE WALL. USE 2 KING POSTS ON EITHER SIDE OF FUTURE HATCH DOOR & ... PROVIDE HIGH LEVEL COLLAR TIE TO THE FRAME SUPPORTED. NO OTHER COLLAR TIE IS REQUIRED. SIDE POSTS ARE STABILISED BY ROOF BRACING. ✓
- 4.) BRACING TO EXTENSION IS PROVIDED BY PORTAL FRAME & ROOF BRACING, APPROVED. ✓
- 5.) TIE DOWN OF ROOF AT DECK POSTS IS PROVIDED BY CENTRAL TIE DOWN RODS; APPROVED. ✓
- 6.) TO COMPLY WITH THE TIMBER FRAMING CODE IN TERMS OF CONNECTIONS, NAILING ETC.. IS THE BUILDER'S RESPONSIBILITY. ✓

NOTE: PLEASE PROVIDE PROTECTIVE COATING TO BOTTOM OF GROOVES OF CONCRETE BEAM ABOVE GARAGE DOOR.

Note: The formwork has not been inspected and should be separately certified by an experienced formwork engineer. All temporary works, shoring, propping etc. are the builder's responsibility.

- ☐ Approved for pour.
- ☒ Approved for pour, provided corrections above are made.
- ☐ Approval for pour is subject to further inspection.
- ☐ Inspected work rejected.

Yours Faithfully


ENGINEER: E. TIHANYI MIEAust CPEng

Received:


BUILDER:



Jack Hodgson Consultants Pty Limited

CONSULTING CIVIL, GEOTECHNICAL AND STRUCTURAL ENGINEERS

ABN: 94 053 405 011

VS 24585.
25th May, 2008.
Page 1.

The General Manager
Pittwater Council
P O Box 882
MONA VALE NSW 2103

Dear Sir,

11 PLATEAU ROAD, AVALON.
Development Application N°. N0377/07

On the 8th May, 2008 we inspected the footings for the proposed alterations and additions at the subject address. At time of our inspection the footings were taken to material of adequate bearing capacity and stability.

JACK HODGSON CONSULTANTS PTY. LIMITED.

**J.D. Hodgson M.Eng.Sc.,
F.I.E.Aust., CP ENG.
Civil & Structural Engineer,
Nper3, Struc. Civil. No. 149788
Director.**

GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO. 3 – Post Construction Geotechnical Certificate to be submitted with Occupation
Certificate or Subdivision Certificate

Development Application for _____	_____
Name of Applicant	
Address of site	<u>11 PLATEAU ROAD, AVALON</u>

Declaration made by geotechnical engineer on completion of the Development

I, BEN WHITE on behalf of Jack Hodgson Consultants Pty Ltd
(Insert Name) (Trading or Company Name)

on this the 11TH AUGUST, 2009

certify that I am a Geotechnical Engineer, Engineering Geologist and/or Coastal Engineer as defined by the Geotechnical Risk Management Policy for Pittwater - 2009. I am authorised by the above organisation/company to issue this document and to certify the organisation/company has a current professional indemnity policy of at least \$2million. ; I prepared and/or verified the Geotechnical Report as per Form 1 dated 19TH JULY, 2007 referred to below.

Geotechnical Report Details:

Report Title: RISK ANALYSIS & MANAGEMENT FOR PROPOSED ADDITIONS AT 11 PLATEAU ROAD, AVALON
Report Date: 13 TH JULY, 2007
Author : BEN WHITE
Author's Company/Organisation: JACK HODGSON CONSULTANTS PTY LTD

- ☒ I reviewed the original structural design, and where applicable the subsequently amended structural details (below listed) which have been incorporated into the completed project.
- ☒ I have inspected and/or am satisfied that the foundation materials, upon which the structural elements (as detailed in the original and amended structural documents) of the development have been erected, comply with the requirements specified in the Geotechnical Report and the Construction Certificate approved Structural Plans.
- ☒ I have inspected the site during construction and to the best of my knowledge, I am satisfied that the development referred to in the development consent D.A. dated 20TH JULY, 2007.


D.A. No. N0377/07 Date consent given 23RD OCTOBER, 2007.

☒ has been constructed in accordance with the intent of the Geotechnical Report, and the requirements of the conditions of Development Consent and the Construction Certificate approved Structural Plans relating to the geotechnical issues (including any treatment and/or maintenance plan that may be required to remove risk where reasonable and practical).

☒ I am aware that Pittwater Council require this certificate prior to issuing an occupancy certificate for the development identified above and will rely on this certificate in regard to the development having achieved the "Acceptable Risk Management" criterion defined in the Policy and that reasonable and practical measures have been taken to remove foreseeable risk.

List of all work as executed drawings and Ongoing Maintenance plans relevant to geotechnical risk management.

10.8.1 The property is to be maintained in good order and in accordance with the guidelines set out in CSIRO BTF 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide" and the Australian Geomechanics Article "Landslide Risk Management Concepts and Guidelines" May 2002.
--

Signature	<u></u>
Name	<u>BEN. WHITE</u>
Chartered Professional Status	<u>MScGEOLAusIMM</u>
Membership No.	<u>222757</u>
Company	<u>Jack Hodgson Consultants Pty Ltd</u>

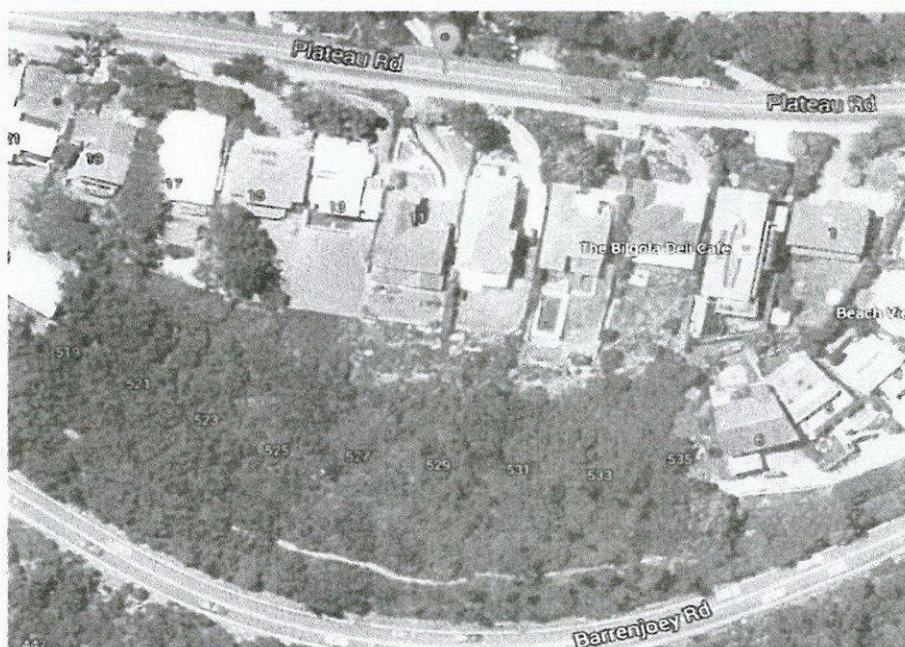


Bush Fire Hazard Assessment Report

For Completed;

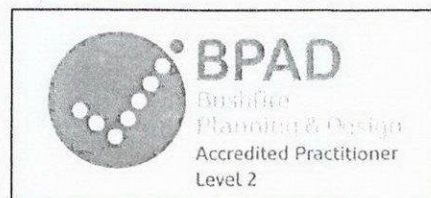
Renovation and Additions

11 Plateau RD Avalon NSW.



12th July 2015

**Prepared By:
The Fire Consultants
Tel: 0418 460517
Fax: 02 98823774
PO Box 29 Forestville NSW 2087**



Executive Summary.

This report has been prepared as a new Bush Fire Assessment for the renovations and additions located at 11 Plateau Rd Avalon in the municipality of Pittwater NSW. The renovations were completed in 2008 however an amendment to the conditions of consent is being now being submitted due to changes in the Bush Fire Hazard assessment due to a larger APZ now being available.

The proposal is "infill" development and has been identified as being bush fire prone and is subject to consideration under section 79BA of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW RFS 2006).

The completed addition has been found to be 24 metres from the nearest bush fire hazard. The Original Bushfire report found that the hazard was 8.7 Metres from the hazard and required the proposal be built to AS3959 1999 Level 3 construction. In addition it recommended a glass fence be provide along the boundary between the property and hazard. The hazard has now been removed to a distance of 24 Metres from the finished construction. This combined with neighbours objections to the glass fence, has resulted in an amendment been requested to the conditions of consent and a new Bush Fire Assessment to be provided. The amendment requests the removal for the need of the glass fence.

The additon is required to comply with BAL 29 construction of AS3959-2009 to meet the requirements of the *Building Code of Australia* (ABCB 2009). It will also need to meet the requirements of *Planning for Bush Fire Protection* (NSW RFS 2006).

1. Introduction.

This report forms a Bush Fire Assessment Report to Pittwater Shire Council for the purposes of section 79BA of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The report identifies that the addition meets the requirements of *Planning for Bush Fire Protection* (2006). This report has been prepared in accordance with the submission requirements of Appendix 4 of *Planning for Bush Fire Protection* (NSW RFS 2006). The site is identified as being within the Vegetation Zone and Buffer-zone of Category 2 Vegetation as per Council Bushfire Prone Land Map and therefore compliance with Bushfire legislation is required.

The completed development is for a minor addition and deck to the rear of an existing house located at 11 Plateau Rd Avalon NSW. The subject property has direct access to the street and is surrounded on three sides by residential development with the hazard behind to the south.

2. Purpose of this Report.

The purpose of a Bush Fire Hazard Assessment report is to provide the consent authority, owners and RFS with a bushfire hazard determination consistent with the aim and objectives of Planning for Bush Fire Protection 2006 (RFS) and Section 79ba of the EP&A Act 1979. Such report provides the necessary recommendations for new building construction standards and any further bushfire mitigation measures appropriate having regard the hazard and particular circumstances of the development.

The recommendations provided in this report will assist Council and the Owner in proving a construction standard consummate with bushfire safety standards so that a safer level is provided should a bushfire occur on or near the property.

3 Scope of Report and Referenced Documents

The scope of this report is limited to the actual property concerned . A representative of TFC has visited the site and surrounding area, but did not enter neighbouring private lands.

This report is based on requirements of the EP&A Act, Planning for Bush Fire Protection (2006) NSW RFS, the Building Code of Australia and AS3959 2009- Construction of buildings in Bush Fire Prone Areas.

4. Proposal.

The proponent has constructed as per the original approval renovations that include a deck to the rear of the property. The deck has been built in fire resistant timber as per AS3959 1999 Level 3 construction as required by the original Bush Fire Assessment in 2007.

The land is zoned for residential purposes and the proposal is understood to comply with the requirements of Pittwater LEP and DCP. This report only addresses the planning and construction issues relevant to the proposal. The proposal constitutes "infill" development as defined and as such must meet the specifications and requirements in Chapter 4 (section 4.3.5) of *Planning for Bush Fire Protection* (NSW RFS 2006).

5. Statement that the site is Bush Fire Prone Land

The land has been identified on the Pittwater Fire Prone Land Map which covers the southern portion of the site.

A copy of the bush fire prone land status is shown below (Figure 1).



Figure 1: 11 Plateau RD Avalon Bush Fire Prone Land Map.

Aerial View of allotment.

It should be noted that the Bush Fire Prone Land Map above indicates that the site is in a buffer zone of vegetation category 2. The Lot itself is clear of bushfire hazard. The nearest hazard is shrub below the residence to the South that runs up from Barrenjoey Rd. This is a major road below the residence, and the hazard is a small part of remnant land containing scrub and weed species above the road between it and the residences of Plateua RD Avalon.

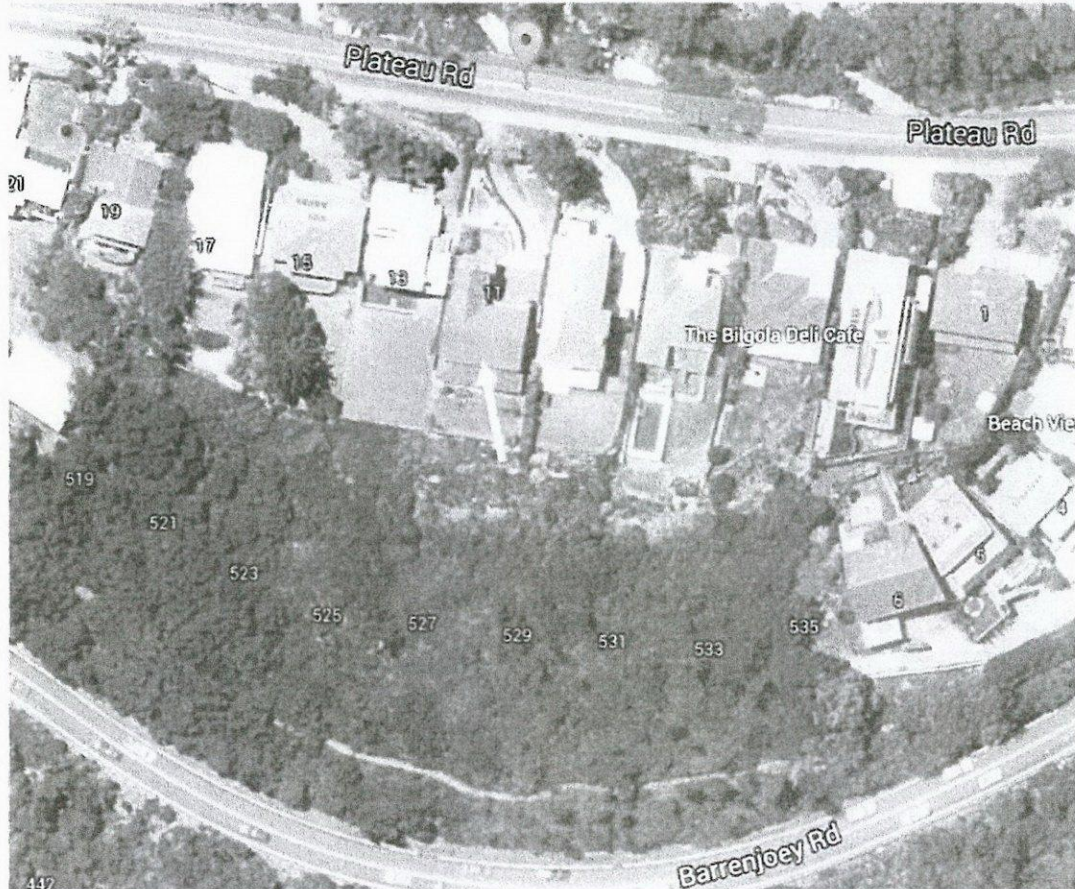


Image 1:- Aerial View of Lot.

6. Bush Fire Hazard Assessment

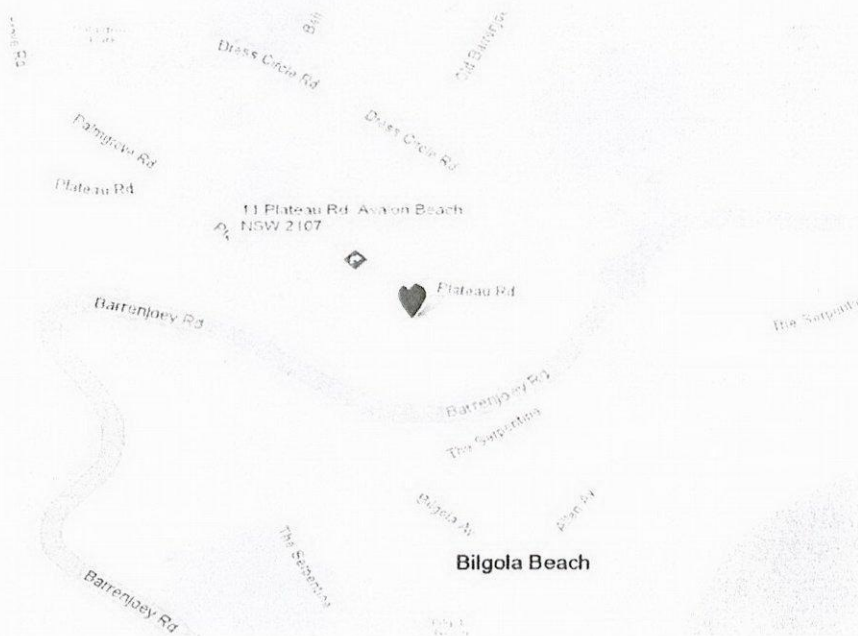
6.1 Preface.

This Bushfire Hazard Assessment has been done according to the guidelines of Planning for Bushfire Protection 2006 (NSWRFS) and AS3959-2009, Construction of Buildings in Bushfire Prone Areas. Properties that are located within a designated Bushfire Prone Area as identified by a Council Area Bush Fire Prone Map and Registered with the NSWRFS, must have either a Bush Fire Hazard Assessment or a Bush Fire Hazard Certificate (in certain Complying Development instances) completed and submitted prior to Council or a Private Certifier being able to approve the development.

The completed development on this site is infill development and as such must comply with Section 79BA of the EP&A Act 1979 and PBP 2006.

6.2 Location

The property is known as 11 Plateau RD Avalon and is located in a residential area within the Pittwater Municipality. The property has direct access to Plateau Rd which runs to the West and out to the East of the subject allotment. The vegetation that is a potential bush fire hazard is to the South of the property.



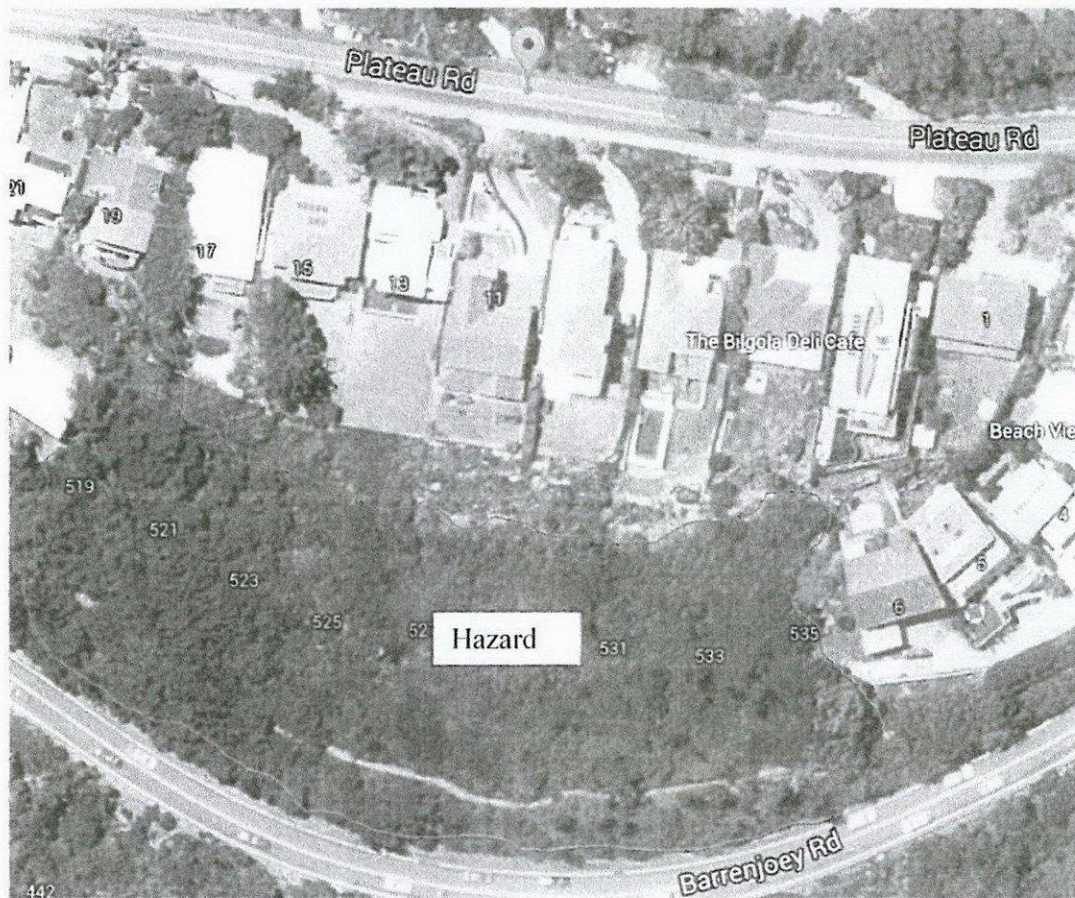


Image 3:- Site Aerial with Hazard Identified.

The site is located in a residential area and surrounded on three sides by other residential homes. It would not be expected that the site be subject to radiant heat exceeding 29kw/m from a bush fire hazard as the hazard is Type 2, small in area and has now been cleared to provide an APZ of 24 metres, but may be subject to amounts of embers from a nearby bushfire. Plateau RD is near to a major Road system that connects Avalon with the southern part of northern beaches, and there are two FRNSW Fire Services available within 5 minutes located at Avalon and Mona Vale.

4.3 Vegetation.

The Lot is cleared of hazard vegetation and contains European gardens. To the south of the property the mapped vegetation is a small area of remnant scrub between Barrenjoey Rd below and the houses of Plateau RD.

In accordance with PBP the vegetation posing the greatest hazard is forest to the South (24 Metres) and after consultation with local RFS mitigation staff (Insp George Sheppard, and Insp. Scott Mollenar Warringah Pittwater RFS) is classified as scrub. The local RFS advise this is a very low area hazard. It contains various low height species including weeds and privet. It has now been cleared behind the residence for a distance of 24 metres as part of Council Weed Mitigation Program and local residences are maintaining.



Image 4 : -Scrub to south below. In 2007 when original report was done, this extended up to pots. has now been cleared to provide an APZ.

6.4 Slope

The slope that would most significantly affect a bushfire is assessed for 100 metres from the building. The slope that is measured is under the hazard. The most significant impact from bushfire can be expected from the east, and north. The slope that would most influence bushfire impact within the 100 metre zone was determined using an inclinometer and topographic maps. This was found to be:

- 15-20 degree downslope under the hazard to South

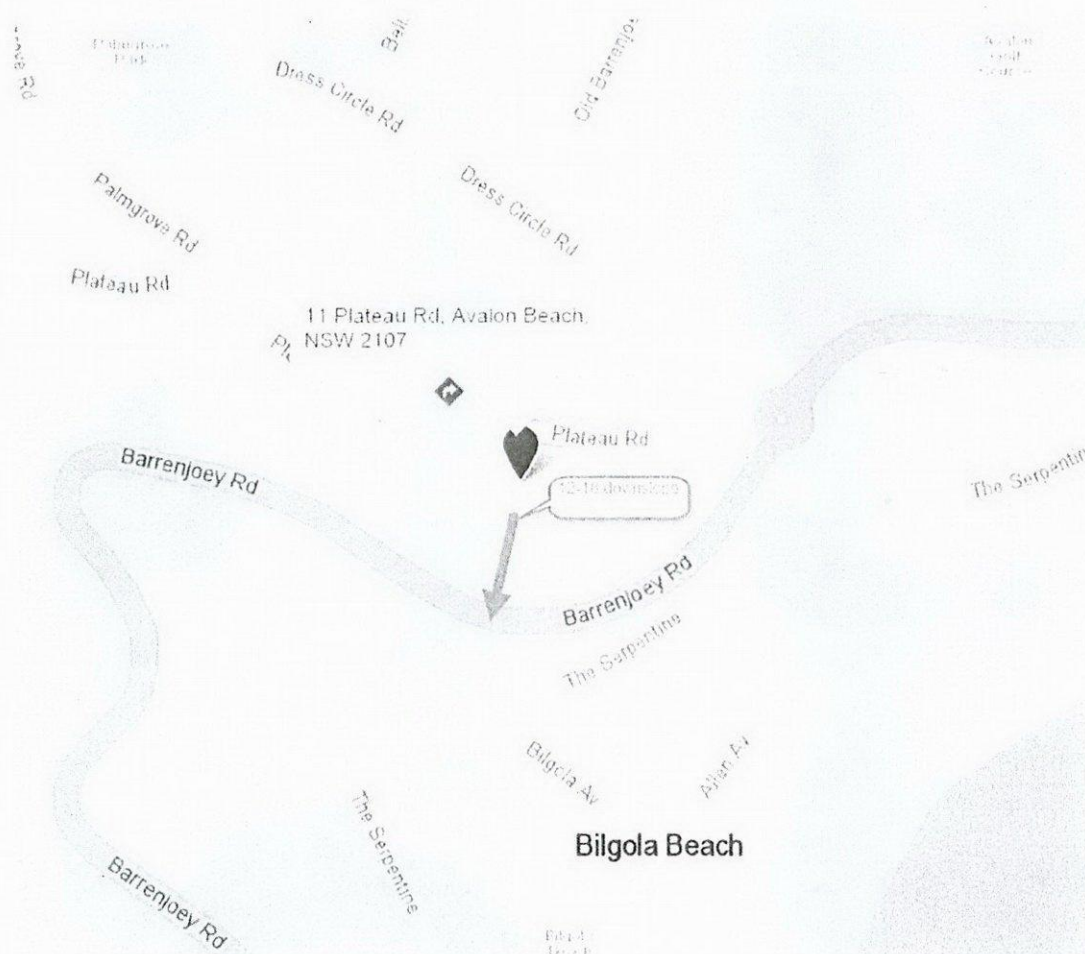


Figure 3:- Slope assessment.

6.5 Asset Protection Zones.(APZ)

The current inner APZ from the proposed addition are as follows;

South: 6 Metres to Boundary

North: Excess 100 metres

The Current Outer APZ from the boundary to Hazard are as follows;

South 18 Metres across newly grassed and cleared area before hazard

North: N/A

The minimum APZ is determined from Table 2.4 of PBP .

The required APZ for Shrub vegetation is 20 metres on 15-20° downslope;

The total APZ provided is 24 metres

The development therefore complies

Direction/Aspect	Effective Slope	Distance to Hazard	Required By PBP Table 2.4	Land-use	Vegetation type/Formation	Complies
South	Downslope	24m	20m	Remnant Scrub	Scrub	Yes
South	N/A	Excess 100 metres	N/A	Developed land	N/A	Yes
East	N/A	Excess 100 metres	N/A	Developed land	N/A	Yes
West	N/A	Excess 100 metres	N/A	Developed land	N/A	Yes

Table 1: - APZ distances

The APZ includes land upon the Lot and as such can be maintained by the owner as an Inner APZ for the life of the development.

6.6 Access for Fire Services and Escape

The subject property has direct access to Plateau RD and in turn to Barrenjoey RD which is a major through fare. The road is surfaced and suitable for fire appliances. Should occupants be required to escape the area in emergency then they should be able to do so. The driveway extends for some 20 metres from the road to the residence and is on a side that does not face the hazard

6.7. Water Supply

The site currently has access to reticulated water supply and Street Hydrants are available for Fire Services. Water supply is considered adequate.

6.8 Environmental Impact

It is not proposed that any further environmental impact will occur due from the development as it is constructed on cleared land and the existing APZ maintained as an Inner and Outer APZ

6.9 Electricity Services

The site is provided with electricity direct from transmission lines. There are no lines passing over the property towards the hazard

6.10 Gas Services

Gas is supplied by mains supply and does not pose a hazard.

6.11 Hazard Assessment Determination.

PBP refers to the appropriate construction standard for a development as determined by Tables contained within AS3959- 2009 "Construction of buildings in Bush fire Prone Areas." This provides a recommendation for the Bush Fire Attack (BAL) Level required for a development . The following Bush Fire Attack Levels have been determined for 11 Plateau Rd Avalon.

FDI Appropriate to Development - Sydney 100
AS3959 Table 2.4.2

Direction/ Aspect	Distance to Vegetation	Vegetation Formation	Slope in degrees	Construction Requirements AS3959-2009
South	24 metres	Scrub	15-20° downslope	Bal 29
North	Excess 100 metres	Managed Land	N/A	No Requirement
East	N/A	Managed Land	N/A	No requirement
West	N/A	Managed Land	N/A	No requirement

Table 2: - Summary of Building Compliance Requirements AS3959-2009.

The construction of the new addition must therefore comply to Section 7 of AS3959 **BAL 29 construction measures on South , east and West sides.**

The proposed dwelling must also comply with the specification and requirements of Section 4.3.5 of *Planning for Bush Fire Protection, Infill development*. This assessment is provided below in detail.

Performance requirement Chapter 4 PBP 2006	Acceptable Solution	Compliance
in relation to Asset Protection Zones: <ul style="list-style-type: none"> a defensible space is provided onsite. an asset protection zone is provided and maintained for the life of the development. 	APZ determined in accordance with Appendix 2.	Yes - Exceeds requirement.
in relation to siting and design: <ul style="list-style-type: none"> buildings are sited and designed to minimise the risk of bush fire attack. 	Buildings are designed and sited in accordance with the siting and design principles in this section (see also figure 4.7). Gutter and valley protection to be incorporated.	Yes – site for home in cleared area allowing for fire-fighting on all sides and evacuation

in relation to construction standards: <ul style="list-style-type: none"> • it is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact . 	Construction determined in accordance with Appendix 3	Yes – Complies to BAL 29 Construction
in relation to access requirements: <ul style="list-style-type: none"> • safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire. 	Compliance with section 4.1.3 for property access roads. Compliance with section 4.2.7 for access standards for internal roads.	Existing Road system. Complies
in relation to water and utility services: <ul style="list-style-type: none"> • adequate water and electricity services are provided for fire fighting operations • gas and electricity services are located so as not to contribute to the risk of fire to a building. 	Compliance with section 4.1.3 for services - water, electricity and gas.	Yes - Existing supplies Comply
in relation to landscaping: <ul style="list-style-type: none"> • it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions. 	Compliance with Appendix 5 of <i>Planning for Bush Fire Protection</i> (2006)	Yes No significant planting under windows or other exposed elements of house – considered acceptable.

Table 3: Compliance with Specifications and Requirements of Planning for Bush Fire Protection. Chapter 4



The constructed building complies with Bal 29 construction under AS3959-2009 and section 4.3.5 of *Planning for Bush Fire Protection*.

7. Recommendations

The following recommendations are provided as a required minimum necessary for compliance with PBP and Australian Standard AS3959.

7.1 Construction Standards

The Addition should be constructed to AS3959 2009 BAL 29- Complies

7.2 Asset Protection Zones

The entire southern and northern sides are to be maintained as an Inner Protection zone.

7.3 Water Supply

No further requirement

7.4 Landscaping

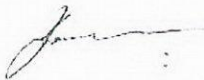
That any Landscaping is to comply with PBP appendix 5 "Landscaping and Property Maintenance".

8. Conclusion

The new addition at 11 Plateau Rd meets the planning requirements of *Planning for Bush Fire Protection* (NSW RFS 2006) and is capable of meeting Australian Standard AS3959-2009 and the *Building Code of Australia* in relation to construction (ABCB 2009). The required Asset Protection Zones determined from Table 2.4 of PBP can be met or exceeded.

In accordance with the bush fire measures contained with this report and the site specific assessment as per PBP and AS3959, it is our opinion that combined will provide a satisfactory level of bush fire safety to the property and satisfies the requirements of the RFS and Councils obligations for this area.

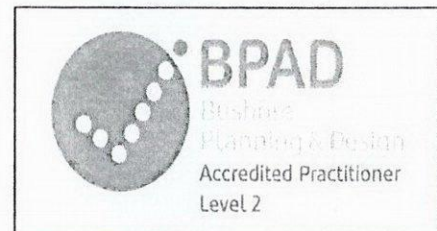
The Council can determine the matter as complying with the specifications and requirements Planning for Bush Fire Protection and section 79BA of the EP&A Act (NSW RFS 2006).



Jim Murphie

BPAD - Certification No. 7200

Grad. Bush Fire Prone Areas (UWS)
Grad Cert Fire Safety Engineering (UWS)
Grad IFE
Wattlegrove Services Pty Ltd T/as
The Fire Consultants



FPA Australia Corporate Member

References.

- Australian Building Codes Board (ABCB), 2009, *Building Code of Australia*, Volume 2, Canberra.
- Keith David, 2004, *Ocean Shores to Desert Dunes: the native vegetation of NSW and the ACT*, Dept of Environment and Conservation, NSW Government.
- NSW Rural Fire Service, 2006, *Planning for Bush Fire Protection*. Sydney
- NSW Rural Fire Service, 2009, website – www.rfs.nsw.gov.au :
- Standards Australia, AS 3959-2009 *Construction in Bushfire Prone Areas* (amended 2001) SAI Global, Melbourne.
- Baulkham Hills Shire Council, *Bush Fire Prone Land Map, Vegetation Map*
- NSW Government Six Mapping .

Disclaimer

Disclaimer: Quote from Planning for Bushfire Protection , "notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small always remains". Although the standard is designed to improve the performance of the building, there can be no guarantee, because of the variable nature of bushfires that any one building will withstand bushfire attack on every occasion.

The opinions and assessment in regard to bushfire development in a Bushfire Prone Area given by TFC are therefore given in good faith.

BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 79BA 1(b) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203

PROPERTY ADDRESS:	11 Plateau RD Avalon
DESCRIPTION OF PROPOSAL:	Completed Renovation and Deck
PLAN REFERENCE: (relied upon in report preparation)	
BAL RATING:	BAL 29 AS3959 2009 (If the BAL rating is FZ the application is to be referred to NSW RFS for assessment.)
DOES THE PROPOSAL RELY ON ALTERNATE SOLUTIONS:	YES NO (Circle the relevant response) (If YES the application is to be referred to NSW RFS for assessment.)

I Jim Murphie of Wattlegrove Services Pty Ltd
(Print Name) (Trading or Company Name)

have carried out a bushfire risk assessment on the above mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in *Appendix 4 of Planning for Bushfire Protection 2006* together with recommendations as to how the relevant specifications and requirements are to be achieved.

REPORT REFERENCE:	11 Plateau RD
REPORT DATE:	12/7/2015
CERTIFICATION No/ACCREDITED SCHEME:	FPAA BPAD 7200

Note: this certificate must be completed and signed by a person recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment in accordance with 79BA of the EP&A Act 1979 No 203.

I hereby certify, in accordance with Section 79BA of the *Environmental Planning and Assessment Act 1979* No 203:

1. That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in bushfire risk assessment; and
2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the ***relevant specifications and requirements****

* The ***relevant specifications and requirements*** being; specifications and requirements of the document entitled *Planning for Bush Fire Protection* prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 79 BA(1)(a) of the *Environmental Planning and Assessment Act 1979* No 203.

I am aware that the Bushfire Assessment Report, prepared for the above mentioned site is to be submitted in support of a development application for this site and will be relied upon by Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with *Planning for Bushfire Protection 2006*.

Attachments:

- ☒ Bushfire Risk Assessment Report
- ☐ Recommendations
- ☐ Statement of vegetation impact in relation to APZ

SIGNATURE: _____

DATE: _____

12-7-2015

Bushfire Attack Level (BAL) Calculator Simplified Procedure (Method 1)



AS 3959-2009 (Incorporating Amendment Numbers 1, 2, and 3)

Version 1.0

Your Name:

Site Address: 11 Plateau RD Avalon

Date: 13/07/2015 9:30 AM

Inputs

Fire Danger Index (FDI) Refer Table 2.1 in AS 3959-2009

FDI: 100 (GFDI: 130)

Classified Vegetation Type Refer Table 2.3 in AS 3959-2009

Scrub

Distance of the site from the classified vegetation type(s)

Refer Table 2.3 in AS 3959-2009

24 metres

Effective downslope(s) under the classified vegetation type(s)

Refer Figure 2.2 in AS 3959-2009

20 degrees*

*For degree to ratio to percentage conversions refer to Table 2.2 in AS 3959-2009

Site Specific Output

Bushfire Attack Level (BAL)

BAL—29

Minimum required distance to achieve:

BAL—12.5	44	metres
BAL—19	32	metres
BAL—29	21	metres
BAL—40	16	metres

A's of BAL—29 to produce a BAL of 29

Disclaimer

This calculator determines the Bushfire Attack Level (BAL) for a given building based on Australian Standard AS 3959-2009 'Construction of buildings in bushfire-prone areas', copies of which can be obtained from SAI Global. Users should be familiar with the Australian Standard in order to use the calculator correctly. The calculator will produce inaccurate results if incorrect input data is entered. It is recommended that users double-check results by calculating the BAL independently in accordance with the Australian Standard before proceeding with any project rather than relying solely on this calculator. To the maximum extent permitted by law, we accept no responsibility whatsoever and exclude all liability (including negligence) for any loss, damage or injury arising from the use of or reliance on this calculator including any third party.

Forest and Wood Products Australia ACN 127 114 185, Exova Warringtonfire Aus Pty Ltd ACN 050 241 524.